

Alternative EX-3

Group
Water Supply

Title
Reduce Demand

The essential theme of this alternative is resolution of both the water supply and ecosystem problems through reductions in Delta exports (while retaining the current intake locations). The theory is that if: (1) the overall volume of exports can be reduced; (2) the within-year timing of exports can be shifted away from the February -- June period; and (3) spring outflows increased, then the environment should respond positively. The challenge in this alternative is to provide for these changed diversion patterns without harming water users in the export areas. Water quality elements and levee stability elements are added as necessary to fill out the alternative.

Reductions in Delta export volume and timing can, in general, be accomplished through a combination of three basic approaches: (1) reduced demand (e.g., conservation, land retirement, land fallowing); (2) substitution of non Delta supplies (recycled water, a new Colorado River aqueduct); and (3) south of Delta storage (to allow for greater flexibility in export timing). This particular alternative relies upon choices made from each of these categories (conservation, land buyouts, land fallowing, and recycling). Demand shifts could also be generated in other ways without substantially changing the character of this alternative. Also, of a continued reliance on a south Delta export location, this alternative emphasizes protection of key western Delta islands to protect against disruption of the export system. Finally, urban and agricultural conservation and recycling should improve water quality above and beyond the core action list.

Key Actions

Conservation--- Improve implementation of urban Best Management Practices (BMPs). Tighten BMPs to require inclining block rate pricing (designed to reduce landscape water use). Implement agricultural Efficient Water Management Practices (EWMPs). EWMPs including: measurement of deliveries; pricing and incentives designed to optimize management (efficiency of use, conjunctive use), grower access to markets. Higher rates of conservation allow for retention of the benefits of water user while lowering the demand for water from the Delta. These conservation elements go well beyond the conservation core actions.

Reclamation--- Maximum reclamation and reuse of urban and agricultural supplies. For example, implement the Bay Area--Central Valley recycling/exchange project and a Southern California--Imperial Valley recycling/exchange project. (Alternatively, move to largescale potable reuse). Maximize agricultural drainage reclamation. Substituting recycled water for Delta water lowers the demand for water from the Delta. These reclamations go far beyond the reclamation core actions.

Land Retirement and Fallowing--- Maximize retirement of marginal agricultural lands and lands of willing sellers. Emphasize purchase of land which contributes to regional drainage and discharge problems. The retirement of land south of the Delta reduces the demand for water from the Delta. This action goes well beyond the land retirement and fallowing core action.

Water Transfers--- Increase the efficient utilization of existing water supplies by facilitating water marketing. In particular, transfer significant amounts of water from the Imperial Valley to Southern California urban areas. Water transfers are not independent of agricultural conservation, land retirement, and land fallowing. Rather, market incentives will lead to agricultural conservation, land retirement and land fallowing. The formal transfer element does not go beyond the water transfers core action. It is likely, however, that water transfers will play a more important role in this alternative than in alternatives which supplies south of the Delta.

Operational Factors--- Environmental standards will be changed to reduce exports and to increase Delta outflow during the February - June period.

Flow Barriers--- Install flow barriers in the South Delta to support existing in-Delta diversions. Because a south Delta pumping location is retained in this alternative, south Delta barriers are needed to protect south Delta agriculture.

Habitat Restoration--- Habitat protection is largely determined by the core actions. Additional habitat restoration activities would include:

- Fund the State of California cost share portion of the fish and wildlife restoration activities of CVPIA.
- Provide 100 miles by 50-feet wide shallow river habitat in the Delta.
- Convert 5000 acres of diked wetlands to tidal action between Chips Island and Carquinez Strait.

Levee Upgrades--- Provide landside buffer zones of 20 to 50 yards to minimize levee subsidence for islands providing valuable existing habitat, such as on Bradford Island. Improve levee maintenance and stabilization to at least hazard mitigation plan standards (HMP; a level of protection less than the 100-year flood) for all islands, such as Tyler and Mandeville, containing existing infrastructure and/or land use that provides economic benefit to the region. Improve levee maintenance and stabilization to at least National Flood Insurance Program standards (NFIP; 100-year flood protection) for critical western Delta islands, such as Brannan-Andrus, Bethel, and Sherman, to reduce risk to critical infrastructure (e.g. Mokelumne Aqueduct, PG&E gas lines, Highway 160) and to reduce risk to export water quality from salinity intrusion due to levee failure. A levee management plan would provide necessary funding for ongoing maintenance and emergency funding and direction to reclaim Delta islands in the event of inundation in order to continue protection of Delta functions as an integrated resource system.

Possible Modifications/Additions

Develop Export-Area Alternative Supplies--- Develop alternative water supplies such as desalination and potable reuse for export areas.

South Delta Facilities--- Implement program to allow utilization of full capacity of export

facilities. Would increase system flexibility and capacity, with benefits distributed in some fashion between exporters and the environment (i.e., could be used to further reduce critical period exports, or to increase export supplies or some combination). Not, strictly speaking, part of a no facilities alternative, but high benefit with minimal intrusion.

Surface Storage---Increased storage increases system flexibility and capacity. Could be used for increasing export water supplies and/or improved environmental flow/diversion conditions.

Groundwater Banking and Conjunctive Use--- Same benefits as surface storage. However, without additional facilities, the potential for groundwater use in the export areas is somewhat limited.

Increase Export Throughput Capacity---Increase capacity of export canals with increase in export pumping plant capabilities. Increases system flexibility/capability. Could be used for increasing export water supplies and/or improved environmental flow/diversion conditions.

Habitat Restoration--- No major ecosystem restoration program was included in this alternative because of implementability issues. This alternative deals with the conflict between water supply and the ecosystem by reducing exporter dependence on the Delta (at great expense). Considering that water users could achieve such an outcome on their own already without any concessions to the environment, it is unlikely that they would be willing to foot the bill for a major habitat restoration program if demand management were selected as an alternative. However, if the people of California foot the bill for many of the demand side measures, then an ecosystem restoration program could be justified.

Preliminary Assessment

Ecosystem Quality—This alternative would improve ecosystem quality primarily through moderate reductions in the entrainment caused by the export pumps and through moderate increases in spring outflow. The alternative includes only minor improvements in physical habitat area. The success of this alternative hinges on the degree to which entrainment and spring outflow limit ecosystem quality and the degree to which entrainment can be reduced and outflows increased through the actions suggested.

Water Supply—This alternative improves M&I water supply reliability by reducing reliance on the Delta as a source of water supply through demand reductions. Moreover, by including near total reclamation for both northern and southern California, an automatic feedback mechanism is built in to help compensate for future growth (as demand increases, reclamation increases). However, as the consumptive use (e.g., landscaping) of water within urban areas increases in the future, supply and demand could become unbalanced or (more likely), agricultural acreage would decline in the export areas as a result of an increasing level of water transfer.

Water Quality—Water quality is improved through reclamation of agricultural, municipal, and industrial wastewater and through improvements in the water quality of diversions. Other water quality improvements are achieved by supporting and core actions including mine drainage remediation.

System Vulnerability— Improvement of the levees around the Delta islands reduces risk to those islands as well as reducing risk to in-Delta and export water supplies from salinity intrusion due to island failure. Other core actions enhance the reliability of in-Delta facilities through levee management.